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August 14, 1989

Bradley P. Holmes, Esq.
Chief, Policy and Rules Division
Mass Media Bureau
Federal Communications Commission
Suite 8010
2025 M Street, N.W.
Washington, D.C. 20554

Re: Request of A.C. Nielsen to Use Line 22;
Response to FCC Ref. JMCNALLY

Dear Mr. Holmes:

On August 11, 1989, we wrote to you in response to the above-referenced request for technical information regarding A.C. Nielsen's "AMOL" system. In a footnote within that letter, we stated that we were providing you at the time with a copy of a videotaped program on which SID Codes were encoded through the AMOL process. Unfortunately, the copy of the videotape we intended to deliver to you with our letter was inadvertently omitted from the delivery. We therefore are providing that videotape to you at this time.

We apologize for any inconvenience this delayed delivery might have caused, and please feel free to call me with any further questions regarding this or other matters.

Sincerely,

Grier C. Raclin

cc: Mr. James McNally; Policy and Rules Division
Bernard Gorden; Policy and Rules Division

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Washington, D.C. 20554

Re: Request of A.C. Nielsen to Use Line 22;
Response to FCC Ref. JMCNALLY

Dear Mr. Holmes:

This letter is in response to your letter of July 28, 1989, in which you requested A.C. Nielsen ("Nielsen") to provide a "detailed description" of the technical characteristics of Nielsen's "AMOL" system. Your letter was in response to Nielsen's July 19, 1989 request for permissive authority to use line 22 to provide its AMOL service (the "Request"). Your request stated that its purpose was to allow the Commission to assess the "interference potential" of the AMOL system and to evaluate whether its use would "perceptively degrade television service currently afforded viewers."[1]

As you are aware, Nielsen's "AMOL" or "Automated Measurement of Lineups" system is used in the preparation of Nielsen's "ratings" of nationally-televised network and

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[1] Nielsen understands that Airtrax, a California general partnership, filed an Opposition to Nielsen's Request on August 8, 1989. Nielsen will respond separately to Airtrax's contentions in due course.

syndicated programming.[2] The ratings themselves are compiled from two principal components: 1) information regarding the station channels to which monitored television receivers are tuned at specified times, derived principally from Nielsen's "people meters;" and 2) information regarding the programs being broadcast by the respective broadcast stations at those times, also known as the station's program "line up."

The AMOL system is used to gather information regarding a station's program line up. Through use of the AMOL system as currently implemented in over 200 markets, "Source Identification" (or "SID") Codes are implanted on line 20 of nationally-televised network or syndicated programming. The Codes identify the program's originating source and the date and time of origination. Once implanted as an integral part of the program (which is required in order to maintain the accuracy and integrity of the monitoring), the Codes are then delivered with the program to the station and are read by Nielsen either just prior to the broadcast of the programs through special receivers located at the respective broadcast stations (the "in-station" method of monitoring), or as broadcast through special receivers located in the communities served by the respective stations (the "radiation" method of monitoring).[3] The reading of the Codes, coupled with information regarding program names provided by the program suppliers, provides Nielsen with information necessary to the preparation of the ratings.[4]

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[2]The FCC has found that ratings services and, specifically, the transmission of SID Codes in support of those services, are "important ... to many entities involved in producing the programs which [a] station broadcasts, and without which its viable operation, however convenient and economical, would be impossible." Coded Information in TV Broadcasts, 18 R.R.2d 1776, 1787 (1970).

[3] The "in-station" method of gathering line-up information is used in connection with those stations that have decided to "strip" or not broadcast Nielsen's SID codes with the programs.

[4]The Commission has determined with specific regard to Nielsen's AMOL system that "the transmission on broadcast frequencies of signals intended to be used in the rendition of a nonbroadcast automatic program identification service [is] in the public interest." Permitting Transmission of Program-Related Signals in the Vertical Blanking Interval of the Standard Television Signal, 43 Fed. Reg. 49331, 49333 (Sept. 2, 1978), citing Report and Order in Docket 19314, 43 F.C.C.2d 927 (1973) at para. 72; and see Coded Information in TV Broadcasts, supra

The technical characteristics and specifications of Nielsen's AMOL system have already been provided to, and reviewed by, the Commission. The AMOL system was first described and approved for use by the FCC in 1974, when the National Broadcasting Company ("NBC") and the other major television networks obtained Special Temporary Authority to test the AMOL system by using it to broadcast SID Codes on line 20 of the Vertical Blanking Interval. Based upon these test results, the AMOL system was found by the Commission not to cause degradation of the service received by television viewers. Specifically, the Commission determined that the AMOL system presents "virtually no potential for program degradation." Permitting Transmission of Program-Related Signals in the Vertical Blanking Interval of the Standard Television Signal, 43 Fed. Reg. 49331, 49333 (Sept. 2, 1978) at Para. 6.[5] Consistent use of the AMOL system in over 200 markets during the 11 years since the Commission made this finding has fully confirmed this conclusion; use of the AMOL system on line 20 has not degraded received television service in any way.

In its Request, Nielsen proposes to use its same AMOL system already approved by the Commission to encode and transmit SID codes on line 22.[6] Nielsen requires the use of line 22 particularly to gather line up information necessary to the provision of its ratings services to independent program

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note 2.

[5] In 1981, based upon the successful completion of these tests and a Petition filed by NBC in 1977, the FCC amended its Rules to allow the AMOL system to be used to broadcast the SID codes on line 20. Amendment of Section 73.682 of the Commission's Rules to Permit the Transmission of Program Related Signals, 46 Fed. Reg. 40024 (August 6, 1981). See 47 C.F.R. §73.682(a)(21) (1989).

[6] As with the Commission's decision regarding Nielsen's line 20 AMOL service, see note 4, supra, the Commission has repeatedly determined that the transmission of SID codes on line 22 was within the Communications Act's definitions of "special signals" and "broadcasting," and was in the public interest. See Letter dated July 18, 1985 from James C. McKinney to Burton Greenberg; Letter dated July 18, 1985 from James C. McKinney to Erwin G. Krasnow; and Letter dated November 6, 1986 from James C. McKinney to John G. Johnson, Jr.

syndicators and users other than major networks.[7] As the Commission is aware, these parties' programs are often taped by television stations for broadcast after the programs are initially transmitted to the station by the programmers. For technical reasons associated with the characteristics of the videotape recorders used by most stations, the AMOL codes placed on line 20 (but not those placed on line 22) are often stripped by these recorders, rendering the AMOL system of limited use in those circumstances and requiring the use of line 22.

The proposed use of the AMOL system to transmit SID Codes on line 22 will not result in any degradation of television service received by viewers. The technical characteristics of the AMOL system that will be used to transmit SID codes on line 22 are exactly the same as those that the Commission reviewed and approved with regard to the use of line 20, the only difference being the minor modification required to transmit on line 22.[8] Similarly, for the same reasons as were found sufficient when line 22 authority was granted to other SID Code transmission services (i.e., overscanning by television receivers),[9] Nielsen's AMOL/SID codes transmitted on line 22 will not be visible to viewers. To confirm this fact, Nielsen on May 30, 1989 undertook viewing tests, during which individuals were given videotapes that were encoded with SID codes on line 22 for viewing on their home television sets. Not a single viewer in the test reported seeing the codes, even though some were told in advance that they were present.[10]

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[7]Of course, the Commission's 1978 Order, which allowed the AMOL system to be used to broadcast SID codes, was explicitly not limited in applicability only to the networks. See Permitting Transmission of Program-Related Signals, supra at Para. 8.

[8] Notwithstanding the fact that the technical characteristics of Nielsen's AMOL System as used on line 22 are the same as the characteristics of the system as used on line 20 (which have already been provided to the Commission), we have set the chacteristics of the Nielsen AMOL/line 22 system in Attachment A hereto.

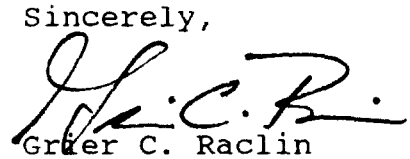
[9] See letter dated July 18, 1985 from James C. McKinney to Burton Greenberg (Telescan); letter dated July 18, 1985 from James C. McKinney to Erwin G. Krasnow (Ad Audit); and letter dated November 6, 1986 from James C. McKinney to John G. Johnson, Jr. (Republic/Airtrax).

[10]To allow the Commission itself to verify that the AMOL codes on line 22 will not be visible to the television audience, we have enclosed herewith a VHS format videotape of a typical

Nielsen believes that the Commission now has at its disposal sufficient information on which to base a determination that use of the Nielsen AMOL system to transmit SID codes on line 22 will not interfere with, or degrade, television service in any way. Nevertheless, Nielsen stands ready to respond at any time to further requests by the Commission for information on this or similar issues. Given the pressing nature of Nielsen's business need to evolve AMOL to line 22 in the current environment, however, Nielsen also requests that this matter be resolved as expeditiously as possible.

Any questions regarding this matter may be referred to the undersigned.

Sincerely,



Grier C. Raclin
Counsel to A.C. Nielsen Co.

cc: Mr. James McNally; Policy and Rules Division
Bernard Gorden; Policy and Rules Division
Lawrence Laskey, Esq.; A.C. Nielsen Co.
David Kiewit; Nielsen Media Research

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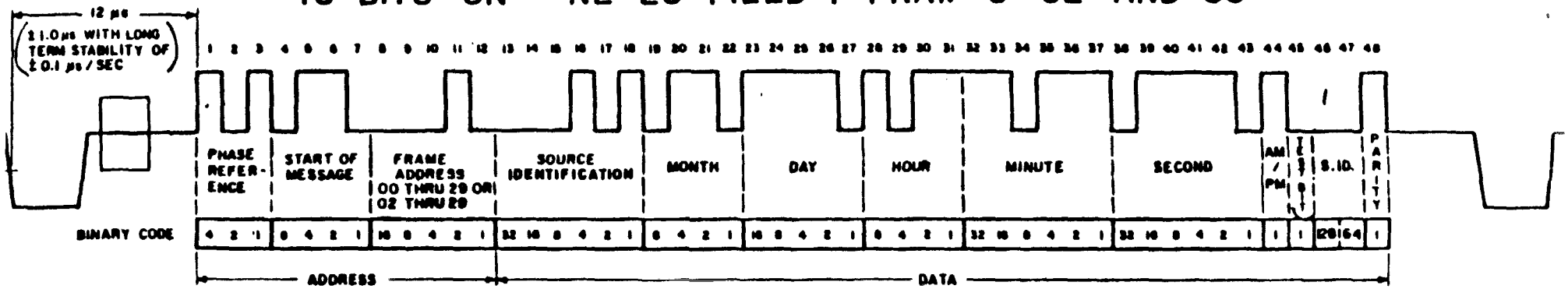
television program, line 22 of which has been encoded with AMOL/SID codes. (The audio track has been purposely deleted from the tape.) As will be readily apparent from a viewing of the tape, the SID codes are not visible during normal television viewing and the presence of the codes on line 22 does not degrade in any way the quality of the associated program.

To further test the proposed line 22 AMOL service, Nielsen will soon file with the Commission a request for Special Temporary Authority to allow Nielsen to arrange for the broadcast by a limited number of stations of SID Codes on line 22 for a limited period of time.

AMOL SOURCE IDENTI. .CATION SIGNAL FORMAT

IGURE 1

48 BITS ON NE 20 FIELD I FRAN S 02 AND 03



TYPICAL WAVEFORM SHOWN IS FOR LINE 20 FIELD 1 FRAMES 02 AND 03
AND IS CODED STARTING AT BIT 8: FRAME 02, ABC SOURCE IDENTIFICATION 05, 6TH MONTH, 30TH DAY, 11TH HOUR, 55TH MINUTE, 30TH SECOND, PM, EASTERN DAYLIGHT TIME. BIT 48 INDICATES ODD PARITY DURING THIS TRANSMISSION.

FRAME ADDRESS

S 1 THROUGH 12 AND 48 APPEAR ON ALL FRAMES. BITS 13 THROUGH 47 Y CONTAIN DIFFERENT INFORMATION ON DIFFERENT FRAMES AS SIGNED BELOW.

AME	ASSIGNMENT
	NOT ASSIGNED - SEE NOTE 10
	NOT ASSIGNED - SEE NOTE 10
	SID CALENDAR AND TIME
	SID CALENDAR AND TIME
- 29	NOT ASSIGNED

SOURCE IDENTIFICATION ASSIGNMENT

00 - 15	ABC
16 - 31	CBS
32 - 47	NBC
48 - 63	PBS
64 - 79	ABC
80 - 95	CBS
96 - 111	NBC
112 - 127	PBS
128 - 143	NOT ASSIGNED
144 - 159	" "
160 - 175	" "
176 - 191	" "
192 - 207	" "
208 - 223	" "
224 - 239	" "
240 - 255	NOT ASSIGNED

NOTES

1. SEND ON LINE 20 FIELD 1 ONLY.
2. RISE TIME 280 ns ± 90 ns. OVERSHOOT, UNDERSHOOT AND SPURIOUS SIGNALS LESS THAN ± 2 IRE UNITS.
3. BIT INTERVALS less ± 0.1 ns, M.A.D. WITH CUMULATIVE ERROR OVER 48 BITS PER LINE NOT TO EXCEED 0.5 µs.
4. DATA IS IN BINARY CODE.
5. "1" = 50 IRE UNITS −0 + 10 IRE UNITS.
6. "0" = 0 IRE UNITS −0 + 10 IRE UNITS.
7. AM = 0, PM = 1
8. BIT 45 IS AVAILABLE FOR FORCING A CHANGE LINE IN DECODER MEMORY FOR SYSTEM TEST.
9. VIDEO NOT TO SCALE.
10. FRAME ADDRESSES 00 AND 01 ARE OMITTED IN CERTAIN SECONDS PER DROP FRAME TIME CODE. DELETING THESE FRAME NUMBERS ADJUSTS THE FRAME COUNT SO THAT FRAME COUNT TIME WILL TRACK REAL TIME SECONDS.
11. WHEN PRESENT, FRAME ADDRESS 00 IDENTIFIES THE FIRST EVEN FRAME NUMBER. WHEN FRAME ADDRESS 00 IS OMITTED, 02 IS THE FIRST EVEN FRAME ADDRESS.
12. THE DATA IN ADJACENT FRAMES 02 AND 03 ARE IDENTICAL. DATA CHANGES MAY OCCUR FOLLOWING FRAME 03 AND BEFORE THE NEXT FRAME 02.
13. BIT 48 WILL BE A PARITY BIT AND BE EQUAL TO A ONE WHEN THE SUM OF BITS 1 THRU 47 ARE EVEN FOR THAT TRANSMISSION. (ODD PARITY)

11-82